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Pandemic of the new coronavirus (SARS-CoV-2): panorama of the confrontation of the nursing professionals in the control of infection by the disease COVID-19 in Brazil

Pandemia del nuevo coronavirus (SARS-CoV-2): panorama de la confrontación de los profesionales de enfermería en el control de la infección por la enfermedad COVID-19 en Brasil

Pandemia do novo coronavírus (SARS-CoV-2): panorama do enfrentamento dos profissionais de enfermagem no controle de infecção pela doença COVID-19 no Brasil

DESCRIPTORS: Coronavírus; Pandemics; Nurse; Control of Infection.

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Coronaviruses, before being considered highly pathogenic, circulated in humans and caused mild respiratory and intestinal infections in immunocompetent⁽¹⁾.

They are the second leading cause of common cold (after rhinovirus). In all, seven human coronaviruses (strains) (HCoV-229E, HCoV-OC43, HCoV-NL63 and HCoV-HKU1⁽²⁾).

Subsequently, at the beginning of the 21st century, two more types of coronavirus (betacoronavirus) were suggested, which are highly transmissible and pathogenic and responsible for causing respiratory and gastrointestinal syndrome in humans: the coronavirus of severe acute respiratory syndrome (SARS-CoV) of origin from China in 2002, and the Middle Eastern respiratory syndrome coronavirus (MERS-CoV) from the Middle East in 2012. The two coronaviruses were transmitted directly to humans from market civets and camels/

dromedaries, respectively, and both viruses are believed to have originated in bats⁽¹⁾.

On December 31, 2019, the World Health Organization (WHO) was alerted to several cases of pneumonia in the city of Wuhan, Hubei province, in the People's Republic of China. It was the last new type (strain) discovered of coronavirus that had not been previously identified in humans, and was named SARS-CoV-2⁽²⁾. It is a betacoronavirus, as well as SARS-CoV and MERS-CoV, highly pathogenic and responsible for causing respiratory and gastrointestinal syndrome, COVID-19 disease⁽³⁾.

In the beginning, many of the outbreak patients in China would have had some kind of link to a large seafood and animal market, where he suggested the spread of animals to people. Then, there was an increasing number of patients who had no exposure to the animal market, and it is now well defined that SARS-CoV-2 has a high and

sustained person-to-person transmission⁽³⁾. However, several known coronaviruses are circulating in animals that have not yet infected humans. As surveillance improves worldwide, more coronaviruses are likely to be identified⁽²⁾.

The new coronavirus (SARS-CoV-2) has a clinical spectrum ranging from asymptomatic infections to more severe conditions. The majority (about 80%) of patients with COVID-19 can be asymptomatic or symptomatic, and approximately 20% of the detected cases require hospital care due to breathing difficulties, of which approximately 5% may require ventilatory support, and may lead to death⁽³⁾.

The most common signs and symptoms of these infections are: cough, fever, runny nose, sore throat and dyspnoea. Fever may not be present in some patients, such as children, the elderly, the immunosuppressed, or

taking medication to reduce the fever. People in risk groups are people over 60 and high-risk pregnant women, and the most prevalent comorbidities are in people over 60 and pregnant women, people with cardiovascular disease, kidney disease, diabetes, chronic lung disease, neoplasms, a depressed person and lung disease. Transmission occurs from one sick person to another or through close contact by touching, droplets of saliva, sneezing, coughing, phlegm, contaminated objects or surfaces⁽³⁾.

The incubation period for the new coronavirus (SARS-CoV-2) is believed to be 2 to 14 days after exposure. It can transmit the disease during the symptomatic period and suggests that the transmission can also occur even without the appearance of signs and symptoms. There are cases, not very common, in which they do not show any of the virus symptoms. Home isolation of all suspected or confirmed cases of COVID-19 is recommended for 14 days after the onset of symptoms⁽³⁾.

Susceptibility is general, as it is a new virus. Regarding immunity, it is not known whether the infection in humans, which did not evolve to death, will generate immunity against new infections and whether this immunity is long-lasting⁽³⁾.

As for the treatment of the new coronavirus (SARS-CoV-2), so far, there is no specific medication. However, supportive measures must be implemented and adequate clinical management⁽³⁾.

On January 30, 2020, WHO declared that the outbreak of the new coronavirus (SARS-CoV-2) constitutes a Public Health Emergency of International Importance (ESPII) - the Organization's highest level of alert, as provided for in the Health Regulations International⁽²⁾.

On March 11, 2020, OMS it classified COVID-19 disease as a pandemic and has provided technical support to

countries and recommended to keep the surveillance system on alert, prepared to detect, isolate and early care for patients infected with the new coronavirus - SARS-CoV-2⁽²⁾.

On March 18, 2020, WHO instructed countries to increase their capacity to detect cases, care for patients and ensure that hospitals have the space, supplies and staff needed to provide care. The need for health leaders to involve citizens and other sectors in supporting public health actions to contain the situation, flatten the epidemic curve and, thus, avoid overloading health services so that they can offer the necessary care to all people who need⁽²⁾.

All this so as not to cause the collapse of health services, which would indicate a lack of possibility to serve people with safety and quality. As health professionals are the first line of defense in this pandemic, hospitals have been instructed to develop emergency plans and to ensure that health professionals have the personal protective equipment and training necessary to prevent infection⁽²⁾.

Most countries have adopted these measures to reduce the rate of transmission and protection of their populations in this pandemic, from declaring a state of emergency to closing borders, schools and universities, in addition to promoting social distance. Essential measures to reduce transmission, flatten the curve and avoid situations that can overload our hospitals and our health teams to save lives⁽²⁾.

In Brazil, on March 11, 2020, social distance began with the closing of schools and the banning of events⁽⁴⁾ and, on March 14, 2020, the Ministry of Health updated and defined non-pharmacological measures to reduce the possibility of transmission of the virus, slowing the progression of the pandemic and reducing the number of cases. These measures were aimed at delaying the peak of the pandemic and reducing the height of the peak,

allowing for a better distribution of cases over time and avoiding depletion of health services^(3,5).

Many states have adhered to non-pharmacological measures and increased social distance. In the city of São Paulo, the largest in Brazil, on March 24, 2020, expanded social isolation (DAS) was determined, which is a strategy for the entire population, restricting contact with people as much as possible, requiring that all sectors of the company remain in the residence for the duration of the measure decreed by the local government officials. This measure aims to slow down the spread of the disease to allow time to provide more health services and equip with PPE, laboratory tests and human resources^(3,4).

Worldwide, until April 17, 2020, 2,222,699 cases detected by the new coronavirus (SARS-CoV-2) and 149,955 deaths. The United States of America is the country with the highest number of cases (684,427). And in Brazil, on the same date, 33,682 thousand cases were detected and 2,141 deaths; in São Paulo, the city most affected, a total of 12,841 detected cases and 982 deaths⁽⁶⁾.

COPING OF NURSING PROFESSIONALS IN THE COVID-19 DISEASE INFECTION CONTROL IN BRAZIL

On April 7, 2020, WHO declared in this pandemic that:

"[...] Nursing is crucial to the global effort to achieve the Sustainable Development Goals (MDGs), including universal health coverage, mental health and non-communicable diseases, emergency response, patient safety and the provision of comprehensive and humanized care. No global agenda can be realized without articulated and sustainable efforts to maximize the contribution of the nursing workforce and its role in multiprofessional Health teams"⁽⁷⁾.

In Brazil, we have 558,177 thousand nurses, 1.3 million technicians and 417,540 thousand nursing assistants, in all there are 2,263,132 million nursing professionals, with a high density of professionals per inhabitants⁽⁷⁻⁸⁾.

Nursing professionals who are at the forefront in combating and controlling the spread of the new SARS-CoV-2 coronavirus, which causes COVID-19 disease, represent the largest category in the health field, whether in public or private institutions, and they are the only professionals present in direct assistance 24 hours a day with patients. Being much more susceptible to infection due to their performance in welcoming, detecting and evaluating suspected situations of coronavirus contagion and the technical capacity of this professional⁽⁸⁾.

The recommendation by the National Health Surveillance Agency (ANVISA) of measures considered mandatory to be implemented to prevent and control the spread of the new coronavirus (SARS-CoV-2) in health services by health professionals (who provide assistance to less than 1 meter of patients suspected or confirmed of infection with the new coronavirus) are: hand hygiene with water and liquid soap or 70% alcoholic preparation; and personal protective equipment (PPE), goggles or face shield (face shield), surgical mask, apron, procedure gloves, N95/PFF2 mask and cap (for procedures that generate aerosols). Health professionals should exchange the surgical mask for an N95/PFF2 mask, or equivalent, when performing aerosol-generating procedures, such as: intubation or tracheal aspiration, non-invasive mechanical ventilation, cardiopulmonary resuscitation, manual ventilation before intubation, collections of nasotracheal samples, bronchoscopies, etc⁽⁹⁾.

Regulatory Norm NR32 advises

Nursing professionals who are at the forefront in combating and controlling the spread of the new SARS-CoV-2 coronavirus, which causes COVID-19 disease, represent the largest category in the health field, whether in public or private institutions, and they are the only professionals present in direct assistance 24 hours a day with patients.

that nursing professionals are exposed to biological risks, and considers the probability of occupational exposure to biological agents as biological risk and determines in its Art. 32.2.4.7 that the PPE must be available in sufficient numbers, at ensuring immediate supply or replacement for all professionals⁽¹⁰⁾.

Health services must provide training for all health professionals (own or outsourced), practicing the proper use of all PPE before taking care of a suspected or confirmed case of infection with the new coronavirus, including attention to the correct use of PPE, N95/PFF2 mask sealing tests or equivalent (when its use is necessary) and the prevention of contamination of clothing, skin and environment during the process of removing all equipment⁽⁹⁾.

The Nursing Technician in charge of the institutions is responsible for planning, organizing, directing, coordinating, executing and evaluating nursing services' in addition to being a bridge between the institution's nursing service and the Regional Nursing Council (COREN) to facilitate the activity inspection, mediating the relationship between nursing professionals who perform their activities in it, promoting the quality and safety of nursing professionals and society⁽¹¹⁾.

In Brazil, until April 15, 2020, the Federal Nursing Council⁽⁸⁾ released the record of 30 deaths of nursing professionals caused by the disease COVID-19, the survey portrays the impact of infections of the new coronavirus (SARS-CoV-2) among nurses, technicians and assistants. Another four thousand professionals are on sick leave, 552 with a confirmed diagnosis and more than 3.5 thousand under investigation. Altogether, there were more than 4,800 complaints, through the service channel, for lack of PPE to work.

But these professionals do not always do the job with the necessary

security. From March 13 to April 16, COFEN registered 4,806 complaints of lack of PPE, prohibition on the use of existing material in the institution, requests for professionals to purchase their own safety materials, reuse of disposable materials, such as the N95 mask and others that are made with questionable material⁽⁸⁾.

The CORENs, until April 13, 2020, inspected 3,772 thousand health units across the country and confirmed the existence of problems in 90% of the units. In the institutions, a deficit of 7,603 thousand nursing professionals was found, of which 2,689 thousand nurses and 4,914 thousand nursing technicians/assistants. It is presented in the report that:

“shows that 22,981 nursing professionals, from 1,136 institutions approached, reported the lack of N95 / PFF2 masks to assist suspected or confirmed patients with COVID-19. During the inspection in 3,307 institutions, 90% lacked Personal Protective Equipment (PPE). [...] Since, 530 complaints were submitted by the Regional Councils to government agencies, including the Public Ministry, health surveillance, state and municipal health departments, among others”⁽¹²⁾.

The COFEN⁽⁸⁾ indicates the need for emergency hiring of professionals,

that there are professionals from a risk group working on the front line to combat COVID-19. That among professionals on leave due to suspicion or confirmation of the new coronavirus, 38% are between 31 and 40 years old; 23% are between 41 and 50 years old; 7.95% are between 51 and 60 years old and 1% is over 60 years.

According to a survey of the situation of nursing in the world, the category represents 59% of health professionals, there is a need for political interventions to enable maximum impact and effectiveness, optimize the scope of action and leadership of nurses, together with increased investment in your education, training and work⁽⁷⁾. ■

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